

4 MANAGEMENT GOALS

The mission of the California Department of Fish and Game (Department) is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. Management goals and tasks included in this chapter are based on this mission and the specific management needs of the Antelope Valley and Smithneck Creek wildlife areas.

The goals presented in this chapter provide broad guidance for long-term management of natural resources and public uses in Antelope Valley Wildlife Area (AVWA) and Smithneck Creek Wildlife Area (SCWA). Tasks to implement each goal are also described. It is important to note, however, that implementation of many of the tasks identified in this plan is dependent on the availability of the necessary staff and an adequate operations and maintenance budget. Thus, additional resources may be required to accomplish tasks identified in this chapter. Chapter 5, "Operations and Maintenance Summary," identifies the specific resources required to manage AVWA and SCWA in the future.

The land management plan (LMP) goals and tasks have been evaluated for their potential impacts on the environment in accordance with the provisions of the California Environmental Quality Act (CEQA). An initial study (IS), which is included in Appendix B, was prepared in accordance with the State CEQA Guidelines. This IS concluded that the LMP, as proposed, would not have any significant effects on the environment. Accordingly, a proposed negative declaration (ND) has been prepared.

The CEQA document analyzes impacts resulting from the programmatic implementation of this LMP and the implementation of the watershed restoration program described in Appendix D. Aside from the project types described in Appendix D, the details of other projects that may be developed consistent with this LMP are not yet known. Any future projects that may involve environmental effects will need to be evaluated in light of the IS/ND to determine if additional project-specific CEQA analysis is necessary.

Permits, consultations, and/or approval actions may also be required to approve specific future projects. Examples of potential permit requirements include the following:

- ▶ U.S. Army Corps of Engineers (USACE)—Section 404 of the Clean Water Act (CWA) permit for discharge of fill in waters of the United States;
- ▶ California Department of Fish and Game—streambed alteration agreement (Section 1602 of Fish and Game Code);
- ▶ Regional Water Quality Control Board (RWQCB)—National Pollutant Discharge Elimination System construction stormwater permit (notice of intent to proceed under the statewide General Construction Permit), potential discharge permit for wastewater, general order for dewatering, and CWA Section 401 certification.
- ▶ U.S. Fish and Wildlife Service (USFWS)—Section 9 of Endangered Species Act (ESA) prohibits the take of federally listed species. Although it is the intent of the Department not to undertake projects that adversely impact rare, threatened or endangered species or their habitats (Section 2053 of Fish and Game Code), a consultation with USFWS pursuant to the Department's Section 6(c) Cooperative Agreement dated 8-26-91 may be required to determine if a federal biological opinion would be necessary.
- ▶ California Department of Fish and Game—The California Endangered Species Act (CESA) and Section 2081 of the California Fish and Game Code require a permit from the Department for projects that could result in the take of a species that is state-listed as threatened or endangered. However, rather than issuing itself a permit in such a case, an internal discussion may be required with the Department's own experts in the region or at headquarters, and should be documented as an addendum to this LMP. This addendum may be entitled "Information on the Effects of Implementation of the Management Plan on Special Status Species."

4.1 DEFINITION OF MANAGEMENT TERMS

The LMP is intended to be compatible with the Department's standardized format for management plans. The latest version of that format is *A Guide and Annotated Outline for Writing Land Management Plans*, dated December 2006. Terminology for describing management is part of this standardized format and these terms are defined below and used throughout this plan to describe the current and planned management of AVWA and SCWA.

Element: refers to any biological, ecosystem, or cultural constituent; public use activity; or maintenance or management coordination program, as defined below, for which goals have been prepared and presented within this plan.

Biological element: refers to species, habitat, or ecosystems for which specific management goals have been developed within this plan.

Watershed restoration element: refers to restoration actions described within this plan that would improve the Antelope Valley Creek or Bear Valley Creek subwatershed.

Public use element refers to recreational and other public uses for which specific management goals have been developed within this plan.

Fire management element refers to planning and implementation of fire and fuels management actions.

Facility maintenance element refers to maintenance requirements necessary to support management of the wildlife areas and attainment of goals for other elements.

Administration element refers to administrative actions that support attainment of goals for other elements.

Research and monitoring element refers to scientific research and monitoring that supports attainment of Department objectives for wildlife areas.

Management coordination element refers to coordination with other public agencies and management programs that are supportive of and compatible with Department activities on the wildlife areas.

Cultural element refers to documenting and protecting significant prehistoric, historic-era, or present-day Native American cultural resources found on the wildlife areas.

Opportunities are existing factors that may facilitate the attainment of management goals.

Constraints are existing factors that may constrain the attainment of management goals.

Biological goal is a statement describing management and its intended long-term results for a biological element.

Public use goal is a statement describing management and the resulting type and level of public use (which is intended to be compatible with goals for other elements).

Facility maintenance goal is a statement describing management and the resulting type and level of facility maintenance (which is intended to support attainment of goals for other elements).

Scientific research and monitoring goal is a statement describing management of procedures for or types of scientific research and monitoring conducted at AVWA and SCWA.

Fire management goal is a statement describing a desired component of fire management planning or of pre-, during, or post-fire management.

Management coordination goal is a statement describing the desired type and level of management coordination activities that are required to achieve the goals previously specified within this LMP.

Tasks are individual projects, actions, or groups of actions that implement the goals and are useful in planning operation and maintenance budgets.

4.2 BIOLOGICAL ELEMENT

Opportunities for the management of biological resources at AVWA and SCWA include the following:

- ▶ The *Loyalton-Truckee Deer Herd Management Plan* (Kahre and Fowler 1982) outlines a good knowledge of management needs of the Truckee-Loyalton mule deer herd.
- ▶ No known invasive animal populations exist in the wildlife areas besides brown trout, which is a desirable game species.
- ▶ Because ecosystems in the wildlife areas have been damaged by past land uses (i.e., timber harvest, channel alteration, illegal OHV use, and fire suppression), many opportunities for ecological restoration and habitat enhancement exist.

Several important constraints on management of biological resources in the AVWA and the SCWA include the following:

- ▶ The ecosystems covering much of the wildlife area property offer limited water supply for ecological restoration or vegetation enhancement actions.
- ▶ Limited baseline biological inventory information is available for the wildlife areas.
- ▶ Many of the vegetation types in the wildlife areas are slow to regenerate, thus requiring prolonged restoration and enhancement monitoring and maintenance.
- ▶ Harvesting large conifers to enhance aspen groves will require the preparation of a relatively expensive timber harvest plan (THP).
- ▶ Limited staff and funding is available for the management of biological resources at the wildlife areas.

Biological Goal 1: Protect, restore and enhance habitat, and regulate hunting to support an optimal size of the Loyalton-Truckee mule deer herd.

As described in Section 3.3 of this document, AVWA and SCWA are located in an area identified as a key winter range for the Sierra Valley subunit of the Loyalton-Truckee mule deer herd, they are on the migration route between summer and winter ranges, and the deer population in the northeast Sierra Nevada has recently been declining. This goal is based on the Department's mission and on one of the primary purposes for which AVWA and SCWA were established: to preserve and protect habitat for the Loyalton-Truckee mule deer herd.

Tasks:

1. Monitor seasonal deer abundance, habitat use, and migration routes to inform deer herd management decisions (see Section 4.4, "Research and Monitoring Element").

2. Protect, enhance, and restore riparian habitat (see Biological Goal 4 and Section 4.3, “Watershed Restoration Element”) to maintain and improve deer fawning habitat.
3. Protect and enhance mountain mahogany and bitterbrush habitat (see Biological Goal 5) to maintain and improve deer foraging habitat.
4. Monitor canopy coverage for densities supportive of deer foraging and cover habitat. Thin young conifers (see Biological Goal 6) as needed to maintain and improve deer habitat.
5. Manage invasive plant species such as cheatgrass (see Biological Goal 3), to maintain and improve deer foraging and cover habitat.
6. Prevent catastrophic fires (see Section 4.6, “Fuels and Fire Management Element”) to maintain and improve all deer habitats, and to prevent deer mortality caused by fire.
7. Periodically evaluate the hunting program and regulations and recommend changes as warranted to maintain an optimal deer herd size (see Section 4.5, “Public Use Element”).
8. Follow management recommendations provided in the *Loyalton-Truckee Deer Herd Management Plan* (Kahre and Fowler 1982) that are applicable to AVWA and SCWA, including the following:
 - ▶ Work cooperatively with the U.S. Forest Service (USFS) to perform habitat alterations.
 - ▶ Work cooperatively with private landowners, providing information and advice on the improvement of deer habitat. Develop programs to provide incentives to landowners for wildlife habitat maintenance and improvement.
 - ▶ Develop funding sources and/or allocate funds when available to perform improvement projects for deer habitat.
 - ▶ Reduce road access into critical habitats by closing roads. This increases the value of the habitat to deer by reducing harassment and illegal kill.
 - ▶ Encourage local citizens to report deer violations. Seek more publicity for, and public participation in, the Californians Turn In Poachers and Polluters (CALTIP) secret witness program. Stress the need for hunter involvement in reducing in-season illegal kill.
 - ▶ Work cooperatively with counties to enforce leash laws as a means of reducing harassment and kills from domestic and feral dogs. Publicize the need for citizen cooperation in reducing dog-related mortality.

Biological Goal 2: Maintain, restore and enhance habitat for special-status species.

Currently, several special-status wildlife species are known to use ecosystems at AVWA and SCWA (e.g., northern goshawk [*Accipiter gentilis*], yellow warbler [*Dendroica petechia*], several bat species), and suitable habitat exists for several other special-status wildlife species (Table 3.3-4). Similarly, three special-status plant species are known to occur in the wildlife areas (Sierra Valley evening-primrose [*Camissonia tanacetifolia* ssp. *quadriperforata*], Sierra Valley ivesia [*Ivesia aperta* var. *aperta*], and Lemmon’s clover [*Trifolium lemmonii*]) and suitable habitat exists for several other special-status plant species (Table 3.3-3). Surveys for most of these species have not been conducted at either wildlife area. Therefore, the results of surveys for these species would determine the need for, and scope of, the other tasks listed below. This goal is based on the Department’s mission and policies to protect special-status species.

Tasks:

1. Conduct, support, or encourage surveys and monitoring for willow flycatcher (*Empidonax traillii*), yellow warbler, goshawk, special-status bat species, special status plant species, and other special-status species that may be present in AVWA and SCWA.
2. Periodically visit populations of special-status species to assess overall habitat integrity, to detect changes in species distribution and abundance, and to detect adverse effects of human use, erosion or nonnative species.
3. Develop and implement enhancement strategies that use natural processes to improve habitat for special-status species.
4. Conduct management activities and manage public uses, especially grazing, timber harvest, and hunting activities, to minimize effects on areas known to be occupied by special-status species (e.g., northern goshawk, yellow warbler, special status plants).
5. Restore, protect, and enhance the ecological functions of Antelope Valley Creek and Bear Valley Creek (see Section 4.3, “Watershed Restoration Element”) to enhance riparian and wet meadow habitat for special-status species dependent on this habitat (e.g., willow flycatcher, yellow warbler, bat species).
6. Ensure that all actions undertaken in the wildlife areas comply with the ESA and the CESA (including any applicable Habitat Conservation Plans or Natural Community Conservation Plans), Sections 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable plans or regulations aimed at the protection of special-status species or their habitat.

Biological Goal 3: Prevent the introduction and spread of invasive species, and manage existing infestations.

As described in Section 3.3, cheatgrass (*Bromus tectorum*) is common and widespread in the wildlife area, particularly in burned areas and areas cleared by timber harvest, although heavy infestations are mostly confined to small patches. As also described, the introduction of the brown trout has likely changed the species composition of streams within AVWA and SCWA. Several other invasive species are known to occur within or in the vicinity of the wildlife areas. Because invasive species can spread quickly and remediation can be difficult and costly, vigilant management attention is required to prevent the introduction and spread of invasive species. This goal is based on the Department’s mission and the need to avoid potential substantial and adverse modifications to ecosystems caused by the introduction and spread of invasive species in AVWA and SCWA. Managing invasive species at AVWA and SCWA would contribute to attainment of several other goals regarding in this LMP, including management of deer herd habitat and fires.

Tasks:

1. Prioritize management of the invasive species described in Section 3.3 based on their potential impacts on ecosystem functions (e.g., deer foraging habitat) and human uses (e.g., hunting, fishing) and the feasibility and impacts of controlling them. Follow existing federal and state priorities where appropriate.
2. Determine appropriate prevention, eradication, and control options (e.g., grazing) for priority invasive species. In making this determination, consider guidance available from the Department’s Pesticide Use Program and from other organizations, such as the Plumas/Sierra counties Noxious Weed Management Group, the UC Davis Weed Research and Information Center, The Nature Conservancy’s Wildland Weeds Program, California Invasive Plant Council (CalIPC), California Department of Food and Agriculture Weed Management Area and Encycloweed programs, Department of Pesticide Regulation, the USFWS Nonnative Invasive Species (NIS) Program.

3. Implement appropriate prevention, eradication, and control options for priority invasive species.
4. Because cheatgrass is already known to be a high-priority species requiring management action, implement the following control methods as time and budget allow:
 - ▶ Encourage grazing in infested areas during the late fall and early spring, to avoid spreading seed and to prevent plants from reaching maturity.
 - ▶ Avoid promoting the invasion of cheatgrass by avoiding overgrazing of uninfested areas.
 - ▶ Close unpaved roads and trails in cheatgrass infested areas.
 - ▶ Conduct prescribed burning activities according to established management methods for controlling cheatgrass (e.g., *Element Stewardship Abstract for Bromus tectorum L. (Anisantha tectorum (L.) Nevski), cheatgrass, downy brome* [The Nature Conservancy n.d.]).
 - ▶ Use herbicide (e.g., Plateau, when it is approved in the United States, or similar) to control cheatgrass in heavily infested areas.
 - ▶ Following fires, promptly revegetate areas of mixed shrub-cheatgrass stands (e.g., sagebrush communities) with seeds/seedlings of native shrub species characteristic of the site-specific vegetation types.
 - ▶ Encourage the establishment of native perennial grasses after cheatgrass has been removed or reduced.
 - ▶ Utilize plant materials that have been certified to be free of cheatgrass seed.
5. Monitor hot spots for introduction of invasive species to enable early detection and rapid eradication of invasive plant and aquatic species (e.g., sites along Antelope Valley Road, along Bear Valley Road, along illegal or informal trails, at popular fishing locations along Bear Valley Creek, in recently burned or disturbed areas.)
6. Conduct periodic resource monitoring (see Section 4.4, “Research and Monitoring Element”) to note observations of new invasive plant or wildlife species, including location and abundance.
7. Clean vehicles and clothing before entering the wildlife areas (i.e., inspect and remove visible plant materials and mud, spray/rinse vehicles and equipment) if coming from an area known to be infested by invasive plant or aquatic species.
8. Use only certified weed-free fill and plant materials (e.g., seed mixtures, straw used for erosion control).
9. Coordinate with regional invasive plant control groups, such as the Plumas/Sierra Counties Noxious Weed Management Group, and support efforts to manage invasive plants.
10. Provide education and outreach regarding efforts to control invasive species, and support education and outreach efforts by other programs.
11. Apply pesticides in conformance with the Department’s Pesticide Use Program to ensure safe and effective pesticide use that minimizes adverse environmental effects.
12. Periodically evaluate the effectiveness of monitoring and control methods and adjust methods as needed.

Biological Goal 4: Protect, restore and enhance riparian and wetland vegetation types.

The preservation, restoration, and enhancement of riparian areas are primary concerns of the Department, as evidenced by the California Riparian Habitat Conservation Program (Chapter 4.1 of the Fish and Game Code). Aspen riparian forest is also a sensitive natural community that is tracked in the California Natural Diversity Database (CNDDB). In addition, because wetlands are so important to a wide variety of fish and wildlife species, it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement, and expansion of wetlands in California. The protection, restoration, and enhancement of riparian and wetland vegetation types at AVWA and SCWA would contribute to attainment of several other goals in this LMP, including habitat for special-status species and deer. This goal is based on Department policies to protect riparian and wetland habitats, and on its contribution to attainment of other goals in this LMP.

Tasks:

1. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important riparian areas from overgrazing, while ensuring that fenced habitat remains available for deer fawning.
2. Identify specific locations of existing aspen stands with physical, biological, and economical (e.g., ease of access) conditions favorable for restoration or enhancement.
3. Develop plans and coordinate with USFS to pursue funding for identified aspen restoration or enhancement projects on either DFG or USFS land; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.
4. Implement identified restoration and enhancement projects (e.g., removal of conifers to minimize shading) for aspen habitat.
5. Prepare a THP prior to any timber harvest.
6. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Section 4.3, "Watershed Restoration Element").
7. Ensure that all actions undertaken in the wildlife areas comply with Section 401 and 404 of the CWA, Section 1600 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of riparian and wetland habitats.

Biological Goal 5: Restore and enhance mountain mahogany and bitterbrush vegetation types.

Curlleaf mountain mahogany (*Cercocarpus ledifolius*) and bitterbrush (*Purshia tridentata*) vegetation types provide important forage plants for the Loyalton-Truckee mule deer herd. In addition, mountain mahogany has shown low or no recruitment within the wildlife areas and the region (Lidberg, pers. comm., 2007). This goal is based on Department policy to preserve and protect important California habitats and on the policy of the Fish and Game Commission that research shall be performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of wildlife resources. The restoration and enhancement of mountain mahogany and bitterbrush vegetation types at AVWA and SCWA would contribute to attainment of goals regarding habitat for special-status species and mule deer.

Tasks:

1. Identify opportunities for restoration or enhancement in areas that previously supported bitterbrush and mountain mahogany vegetation types but were modified by fires or other disturbances; assess physical,

biological, and economic opportunities and constraints. Record all locations of these vegetation types in the Department's geographic information system (GIS) database.

2. Develop plans and pursue funding for projects to restore or enhance identified bitterbrush and mountain mahogany; include goals, techniques, costs, monitoring, an adaptive management process, and a schedule; include the help of volunteers whenever practical.
3. Implement restoration and enhancement projects (e.g., seeding, planting, soil amendments, watershed restoration) for bitterbrush and mountain mahogany vegetation types if effective restoration or enhancement methods are developed.
4. Research existing literature addressing mountain mahogany regeneration to understand and manage the current lack of regeneration.
5. Identify management practices that may enhance mountain mahogany and bitterbrush vegetation types in areas where they already exist.
6. Conduct and support studies of mountain mahogany regeneration and potential restoration or enhancement methods (see Section 4.4, "Research and Monitoring Element").

Biological Goal 6: Protect and enhance other native upland vegetation types.

This goal is based on the Department's mission to manage California's fish, wildlife, plants, and habitats for their ecological and recreational values and on its contribution to attainment of other goals in this LMP, such as supporting an optimal deer herd size.

Tasks:

1. Monitor regeneration of upland forests that were burned in the Cottonwood and Harding fires (see Section 4.4, "Research and Monitoring Element"). Enhance these forests with additional seeding or planting as needed.
2. Evaluate the need to thin young conifers, consistent with the 2001 timber harvest and fire management goals, and conduct timber harvests as needed. Reevaluate the need for thinning approximately every 10–20 years.
3. Prepare a THP prior to any timber harvest.
4. Restore the natural and historic hydrologic functions of Antelope Valley Creek and Bear Valley Creek watersheds (see Section 4.3, "Watershed Restoration Element").
5. Ensure that all actions undertaken in the wildlife areas comply with plans, regulations, and CEQA guidelines protecting unique or sensitive habitats.

Biological Goal 7: Protect and enhance aquatic ecosystems and functions.

It is the policy of the Fish and Game Commission that the Department shall emphasize programs that ensure, enhance, and prevent loss of aquatic ecosystems and sport fishing opportunities. The protection and enhancement of aquatic ecosystems at AVWA and SCWA would contribute to the attainment of other biological goals and public use goals. This goal is based on the policies of the Fish and Game Commission, the Department's mission to manage California's fish, wildlife, plants, and habitats for their ecological and recreational values, and on the goal's contribution to attainment of other goals in this LMP, such as supporting special-status species and recreational fishing.

Tasks:

1. Monitor and assess human use, invasive nonnative aquatic species, and other effects on habitat for sport fish and other aquatic species (see Section 4.4, “Research and Monitoring Element”).
2. Periodically evaluate angling use and regulations and recommend changes as warranted to maintain and enhance aquatic habitat for sport fish and other aquatic species.
3. Monitor existing fencing precluding cattle from riparian areas. Maintain or add fencing as needed to protect important aquatic habitat from cattle disturbance or pollution.
4. Ensure that all projects proposed within the watersheds of AVWA and SCWA provide protection measures for water quality (particularly erosion and sedimentation control measures), water quantity, stream buffers, and aquatic species.
5. Before implementing any construction projects including soil disturbance greater than 1 acre (or less, depending on current State Water Resources Control Board [SWRCB] regulations), prepare a storm water pollution prevention plan that identifies BMPs that will be used to eliminate or minimize the potential for construction-related pollution (e.g., sediment, fuels, pesticides, cement) to enter stream flows directly, or through stormwater runoff.
6. Ensure that all actions undertaken in the wildlife areas comply with the ESA and CESA, Sections 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable plans and regulations aimed at the protection of aquatic habitats.

Biological Goal 8: Manage grazing to protect and enhance biological resources.

Cattle grazing on native rangeland can have a potential for substantial impacts to natural resources, and also can be used as an important management tool. Therefore, careful consideration must be given to ensure that cattle grazing on Department property will not harm the resources that the Department is committed to protecting. Appropriately managing cattle grazing on Department property would be essential for attaining other LMP goals (e.g., all biological goals, Research and Monitoring Goal 1). The BSA Allotment Management Plans Project Environmental Assessment (TNF 2002) thoroughly describes the potential impacts of grazing on adjacent TNF property, and outlines mitigation measures important to protecting natural resources. This information has been incorporated by reference into the grazing lease used for Department property. This goal is based on the Department’s mission to manage California’s fish, wildlife, plants, and habitats for their ecological and recreational values, and on the goal’s contribution to attainment of other goals in this LMP.

Tasks:

1. Implement design features, Standard Management Requirements, and Best Management Practices described in the BSA Allotment Management Plans Project Environmental Assessment to manage potential grazing impacts to special-status species; mule deer; riparian and wetland vegetation types; aquatic ecosystems; mountain mahogany, bitterbrush, and other upland vegetation types.
2. Rotate cattle to facilitate grazing during appropriate seasons and at an appropriate intensity to use grazing as a management tool for invasive plant species management.

4.3 WATERSHED RESTORATION ELEMENT

The Watershed Restoration Element supplements the Biological Element. Although many tasks in the Watershed Restoration Element support the attainment of goals described in the Biological Element, the methodology of the tasks is specific to the aquatic systems and hydrology of the watersheds. These Elements are further differentiated

by the scale of restoration actions; restoration actions described in the Biological Element may affect resources spread throughout the wildlife areas (e.g., enhance bitterbrush habitat), while restoration actions described in the Watershed Restoration Element may affect the entire watershed (e.g., restore hydrologic and floodplain functions and stability).

Several actions are proposed that would restore, in part, watershed functions within AVWA and SCWA. They are described in detail in Appendix D. Briefly, they include implementing a “plug and pond” restoration technique along Antelope Valley and Bear Valley creeks, and modifying several roadways, skid trails, and other abandoned human-made features to redirect surface water flows. Implementing these projects would support attainment of several Watershed Restoration Element and Biological Element goals.

Several opportunities for restoring the watersheds in AVWA and SCWA include the following:

- ▶ No water resources in the portion of Antelope Valley Creek located within AVWA are part of an adjudicated water supply.
- ▶ Yellow warbler is the only known special-status species inhabiting proposed restoration sites. This and other neotropical songbirds, as well as other riparian vegetation dependent wildlife species are expected to benefit from watershed restoration.
- ▶ Proposed restoration techniques have been proven successful in similar, nearby watersheds.
- ▶ Neighbors and other stakeholders have demonstrated support and cooperation with proposed watershed restoration activities.
- ▶ The Department has a cooperative relationship with the Tahoe National Forest (TNF) to implement restoration activities on both Department property and USFS property.
- ▶ The wildlife areas are located in a relatively remote and undeveloped region, which minimizes or eliminates potential human-related environmental impacts from construction activities (e.g., noise impacts).
- ▶ Aside from Palen Reservoir, no significant development or human use is near AVWA or SCWA that would constrain or be in conflict with watershed restoration designs.
- ▶ Most existing human-made physical features, such as old logging roads, that are hindering healthy watershed functions are no longer in use; therefore, these features can be modified relatively easily to help restore watershed functions.

Several important constraints on restoring the watersheds in AVWA and SCWA include the following:

- ▶ Water appropriations exist for the water supply of Bear Valley Creek.
- ▶ Both wildlife areas contain very degraded stream systems with severe incision, which limits the practicality of restoration techniques involving the active fill of incised channels.
- ▶ The construction season for conducting restoration activities is short because of seasonal restrictions that protect water quality and special-status species that could occur in riparian habitats associated with Antelope Valley and Bear Valley creeks.
- ▶ Many restoration activities would require compliance with Section 401 and 404 of the CWA, Section 1602 of Fish and Game Code, and other applicable regulations aimed at the protection of aquatic resources and habitats.

- Funding has not yet been obtained for the watershed restoration activities described in Appendix D.

Watershed Goal 1: Restore hydrologic stability and floodplain functions to Antelope Valley Creek and Bear Valley Creek watersheds.

Restoring hydrologic stability and floodplain functions to Antelope Valley Creek and Bear Valley Creek watersheds would restore ecological processes and provide substantial ecosystem benefits. Implementing “plug and pond” restoration techniques in these two watersheds would redirect water that is now draining rapidly through incised channels, eroding creek substrate and increasing sediment loads downstream. Redirecting these flows would raise groundwater elevations in each watershed, which would:

- dissipate and slow stream flows;
- saturate dry alluvial floodplain deposits;
- increase infiltration and groundwater recharge;
- decrease the potential for downstream flooding;
- increase the amount of time water is stored in the upper watersheds;
- release stored water and increase base stream flows in downstream environments later in the dry season;
- reduce downstream sediment loads by eliminating active erosion in main and secondary channels;
- increase sediment deposition in the upper reaches of the watersheds by slowing flows;
- restore, enhance, and expand the riparian zone; and,
- restore and enhance wet meadows.

In turn, these results would help to attain a number of other goals in this LMP (e.g., Biological Goal 1). This goal is based on the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement, and expansion of wetland habitat in California, and on its contribution to the attainment of other goals of this LMP.

Tasks:

1. Implement watershed restoration activities on Department lands as described in the watershed restoration program included herein as Appendix D, while implementing the impact avoidance and minimization measures appended to that report.
2. Following implementation of the restoration activities in Appendix D, reevaluate the need for additional restoration actions approximately every 3–5 years and as funding allows.
3. Evaluate opportunities, constraints, and potential restoration benefits to identify feasible watershed restoration projects that would support the goals of this LMP, including review of existing documents and/or conduct of additional assessments (e.g., of physical and biological conditions).
4. Pursue funding and develop plans for identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, and a schedule.
5. Cooperate with the development and implementation of local and regional restoration plans by other programs that are consistent with the goals of this LMP.

Watershed Goal 2: Document, understand, and respond to ecological changes and improvements resulting from restoration actions.

Monitoring, documenting, and adaptively managing watershed restoration actions will help to: ensure that project goals and objectives are being met, ensure that stream and floodplain ecosystems are healthy and functioning following restoration, inform future management decisions, and expand the scientific community’s knowledge base regarding restoration ecology. It is the policy of the Fish and Game Commission that research shall be

performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of fish and wildlife resources. This goal is based on the policies of the Fish and Game Commission and the need for monitoring and scientific research data to attain this plan's goals, including successful restoration.

Tasks:

1. Support and encourage the monitoring of pre- and post-restoration ecological conditions to evaluate the success of restoration and associated actions (e.g., construction BMPs) and refine techniques in an adaptive management framework. Priority elements to be considered for monitoring include:
 - ▶ hydrologic conditions;
 - ▶ erosion and sedimentation;
 - ▶ fish populations, to assess the presence of multiple species and all relevant life stages;
 - ▶ fish habitat, to assess the presence and development of diverse and complex stream elements (e.g., riffle-run-pool habitats, riparian and in-stream structure, substrate);
 - ▶ aquatic macroinvertebrates, to assess species richness and abundance and healthy stream ecology;
 - ▶ mule deer populations, including evidence of fawning;
 - ▶ special-status species, including willow flycatcher, yellow warbler, bat species, and mountain yellow-legged frog; and
 - ▶ invasive plants, to assess if control measures are effective or if additional control measures are warranted.
2. Establish permanent photo stations and seasonally or annually document the progress of hydrologic restoration and riparian and wet meadow vegetation enhancement.
3. Make adaptive changes to stream restoration design, as necessary, based on the results of monitoring.

4.4 RESEARCH AND MONITORING ELEMENT

Scientific research and monitoring contributes to sound management of natural resources both in and beyond the wildlife areas. It is a key component of successful adaptive management programs. Monitoring the results of management actions is fundamental to an adaptive management approach to land management. As part of this LMP, the Department is preparing a vegetation map of AVWA and SCWA based primarily on aerial interpretation. As part of the proposed watershed restoration program along Antelope Valley and Bear Valley Creeks, the Department (in cooperation with the TNF and the Plumas Corporation) is gathering specific hydrologic and geomorphic data for those watersheds. In addition, the Department has information on several specific resources in the wildlife areas, including the location of aspen stands, survey data about mountain lions, information on a few specific cultural resources, the specific location of nesting special-status birds, and anecdotal information regarding common and special-status species found within the wildlife areas.

However, most basic inventory data are lacking for AVWA and SCWA. For example, a comprehensive list of wildlife species based on field surveys does not exist for the wildlife areas. Also, no ongoing monitoring of invasive plant populations, special-status plant populations or their habitats, or any monitoring that could be used to evaluate the effects of public use on ecosystems exists at the wildlife areas. Thus, additional research and monitoring could benefit the management and attainment of goals from the Biological Element.

At AVWA and SCWA, several opportunities for scientific research and monitoring include the following:

- ▶ Existing background information has been compiled by this and other reports (e.g., *Sierra Valley Watershed Assessment* [SVRCD 2005]).
- ▶ Proposed plans to implement a watershed restoration program within the wildlife areas would provide the opportunity for gathering baseline data prior to implementation of those projects, and for the compilation of restoration response data following implementation of those projects (see Section 4.3 “Watershed Restoration Element”, Goal 2)
- ▶ Several individuals affiliated with educational and/or research organizations have been conducting and/or are interested in conducting scientific monitoring and research in the wildlife areas (see Section 3.3).
- ▶ Opportunities exist for coordination with other branches of the Department; with other federal and state resource agencies or departments (e.g., California Department of Water Resources (DWR), California Department of Conservation, California Department of Food and Agriculture, TNF, USGS, USFWS, USACE); and with private organizations (e.g., California Audubon, Ducks Unlimited, Plumas/Sierra Counties Noxious Weed Management Group) that are conducting data collection and mapping activities.

Several important constraints on scientific research and monitoring in AVWA and SCWA include the following:

- ▶ Available staff and funding are limited for scientific research and monitoring.
- ▶ Access is relatively limited due to the somewhat remote location of the wildlife areas; and
- ▶ Public use of much of the wildlife areas can hinder research and monitoring.

Research and Monitoring Goal 1: Support appropriate scientific research and encourage or conduct research that contributes to management goals of AVWA and SCWA.

It is the policy of the Fish and Game Commission that research shall be performed to provide scientific and management data necessary to promote the protection, propagation, conservation, management, or administration of fish and wildlife resources. This goal is based on the need for data from monitoring and scientific research to attain many of this plan’s goals, and on the policies of the Fish and Game Commission. Whenever possible and advantageous, the services of the University of California or other academic or research institutions, or federal, state, or local agencies shall be used.

Tasks:

1. Review and evaluate proposed research projects utilizing the following criteria:
 - ▶ potential for research results to improve management of AVWA, SCWA, or other wildlife areas;
 - ▶ potential conflicts between the research and compatible public uses;
 - ▶ potential conflicts between the research and any biological goals stated in this plan;
 - ▶ potential contribution of the research to science and society; and
 - ▶ potential for the research to interfere with or preclude certain types of future research at AVWA or SCWA.
2. Provide letters or permits to researchers specifying dates and times of authorized access, and information on regulations and area restrictions.
3. Require that researchers provide copies of data and/or published papers to the Department, and contact researchers to ensure this requirement is fulfilled.
4. Actively promote the wildlife areas to regional academic institutions as a resource available for research activities.

5. Establish long-term working relationships with regional academic institutions.
6. Encourage long-term studies of water quality and quantity, special-status species populations, native plant, fish and wildlife habitat quality, and other topics that could inform management of the wildlife areas. Encourage consistent monitoring methodology between long-term monitoring efforts and monitoring tasks outlined in the Watershed Restoration Element. High-priority topics may include:
 - ▶ mule deer,
 - ▶ bat species,
 - ▶ fish populations,
 - ▶ willow flycatcher,
 - ▶ yellow warbler,
 - ▶ raptor species,
 - ▶ mountain mahogany and bitterbrush vegetation types,
 - ▶ riparian vegetation types,
 - ▶ deer foraging and cover habitat,
 - ▶ special-status plants (e.g., Sierra Valley evening-primrose, Sierra Valley ivesia, Lemmon's clover; see Table 3.3-4)
 - ▶ cheatgrass and other invasive plants,
 - ▶ fire fuels,
 - ▶ erosion and downstream sedimentation, and
 - ▶ watershed hydrology.
7. When conducting plant surveys, follow survey protocols outlined by the following sources, as appropriate according to the species' listing status:
 - ▶ California Department of Fish and Game. 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. Revision of 1983 Guidelines. Sacramento, CA.
 - ▶ California Native Plant Society. 2001. CNPS Botanical Survey Guidelines. December 9, 1983. Revised June 2, 2001. Available: <http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf>.
 - ▶ USFWS. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.
8. When conducting wildlife surveys, follow Department, USFWS, or USFS survey protocols, as appropriate, according to the species' listing status.

4.5 PUBLIC USE ELEMENT

It is the policy of the Fish and Game Commission that lands under its administration are available to the public for wildlife-dependent recreational use whenever such uses will not unduly interfere with the primary purpose for which such lands were acquired. One of the primary reasons for acquiring AVWA and SCWA was to protect critical winter habitat for mule deer. Deer hunting is a primary use of the wildlife areas. Because use of AVWA and SCWA for hunting is seasonally restricted, several other uses are compatible with hunting at these wildlife areas. Compatible, wildlife-dependent uses authorized and ongoing at AVWA and SCWA include angling, informal camping, wildlife observation, and environmental education. Compatible uses that are not wildlife-dependent, but are authorized and ongoing at a low level of intensity include mountain biking, hiking, and horseback riding. Gathering of native plant materials for cultural uses also can be compatible and may be ongoing.

At AVWA and SCWA, several opportunities for compatible public uses include the following:

- ▶ Both wildlife areas have direct connectivity with surrounding USFS lands, which supplement the usability of resources found within the wildlife areas.
- ▶ The Loyalton-Truckee mule deer herd (a large, desirable game species) uses the wildlife areas and the open habitat (allowing high visibility) in the wildlife areas, which provides good hunting opportunities.
- ▶ Fishing opportunities exist for game species, primarily brown trout, within the Smithneck Creek watershed.
- ▶ Both wildlife areas provide good areas for passive recreation, such as wildlife viewing and photography, due of their proximity to the unique high altitude of the Sierra Valley meadow, recent habitat changes resulting from large wildfires, and wildlife habitat management.

Several important constraints on public use of AVWA and SCWA include the following:

- ▶ Regulations preclude the use of Off Highway Vehicles (OHV) within the wildlife areas.
- ▶ Regulations limit the method and scale of legal hunting and the species that can be legally hunted within the wildlife areas.
- ▶ The wildlife areas lack a defined or intentional trail system.
- ▶ Available staff and funding for operations and maintenance is limited.
- ▶ Public uses may affect cultural resources.
- ▶ Potential conflicts exist between the primary purpose of the wildlife area (i.e., species and ecosystem preservation) and other uses (e.g., angling, hunting). For example, disturbance such as hunting may affect ecosystems in the wildlife areas, including special-status species and their habitat. Conversely, watershed restoration may temporarily reduce local game fish species populations.

Public Use Goal 1: Install signage that provides information to the public about compatible public uses of AVWA and SCWA.

Compatible public uses of AVWA and SCWA are facilitated by signage that informs the public of the boundaries, laws, and regulations applicable to the wildlife areas. This information reduces conflicts among uses, increases the safety of users, and discourages unauthorized uses.

Tasks:

1. Inform users regarding the location and boundaries of AVWA and SCWA by providing locator signs and property boundary signs at major access points (e.g., State Route (SR) 49, Bear Valley Road, illegal OHV access points.)
2. Inform users regarding compatible public uses of AVWA and SCWA by providing bulletin boards at formal entrances to the wildlife areas. Include information such as:
 - ▶ wildlife area maps;
 - ▶ hunting regulations;
 - ▶ OHV use regulations;
 - ▶ regulations precluding Christmas tree or firewood harvest;
 - ▶ other Title 14 regulations;
 - ▶ safety information;
 - ▶ TNF maps indicating legal OHV trails;
 - ▶ contact information for the Department and TNF;
 - ▶ penalties for illegal activities; and,
 - ▶ interpretive material.
3. Select signage locations and styles that are consistent with Department signage guidelines, the rural character of the region and the aesthetics of the natural environment in the wildlife areas.

Public Use Goal 2: Encourage and support compatible, safe, and legal public use of wildlife areas through public outreach, regulations and agreements.

As the Loyalton-Truckee deer herd continues to use habitat at AVWA and SCWA, deer hunting opportunities will continue to be an important public use. The wildlife areas also have the capacity to support additional compatible public uses, particularly bird watching and other wildlife viewing and environmental education. As the populations of the surrounding counties grow, it will be increasingly important that the public is aware of appropriate public uses of the wildlife areas. This goal is based on the Department's policy to provide natural-resource dependent public use opportunities that are compatible with wildlife area goals and objectives.

Tasks:

1. Implement a public outreach program to increase the awareness of visitors and potential visitors to the Sierra Valley region about AVWA and SCWA, existing public use opportunities, and regulations. Hold public information meetings periodically to inform the public about particular management issues requiring focused attention (e.g., regulations precluding OHV use).
2. Provide information on the Department's Web site and published outreach materials to inform the public about AVWA and SCWA. Include information such as:
 - ▶ Regulations concerning public uses (such as hunting times, locations, and tag procedures; fishing regulations; and illegal OHV use) at the wildlife areas;
 - ▶ Contact information for AVWA and SCWA staff for questions, comments, and suggestions regarding compatible uses of AVWA and SCWA;
 - ▶ Maps and boundary information; and,
 - ▶ Penalties for illegal activities.

3. Develop an agreement with the Feather River Archery Club for a permanent archery range, open to the public and maintained by the club, at one of the wildlife areas.
4. Periodically conduct reviews of public uses of the wildlife areas and evaluate rules, regulations, guidelines, and materials to ensure compatibility of public uses.

Public Use Goal 3: Support the use of AVWA and SCWA for environmental education.

It is the policy of the Fish and Game Commission that, to the maximum extent feasible, the Department shall disperse information to the public regarding conservation, protection, and management of the state's fish and wildlife resources. It is also a policy that the Department shall encourage education programs that increase the public's respect and concern for wildlife and their knowledge of the interrelationships between wildlife, their environment, and their human neighbors.

Tasks:

1. Provide staff assistance, interpretive materials, and permits for environmental education activities.
2. Encourage all environmental education and natural resource interpretation (informal education) users to incorporate the Department's guidelines for natural resource education messages in their field environmental education activities, curriculums, and interpretive programs, both on- and off-site.
3. Coordinate with non-profit groups (e.g., National Audubon Society, Cal Trout, Feather River Coordinated Resource Management group) that promote wildlife-dependent recreational opportunities and that can provide additional support to the Department's management of AVWA and SCWA.
4. Develop a plan to provide interpretive information at key locations (e.g., the proposed Bear Valley Creek restoration site) where visitors can observe natural resources, resource degradation and management challenges, or the application of methods to restore compromised habitats.
5. Enlist the cooperation of local volunteers, such as residents and students of the Sierra Valley, when implementing projects (such as restoration or enhancement projects) that may be educational for the volunteers. Include such volunteer labor as an "in-kind" funding source in grant applications, whenever possible.

Public Use Goal 4: Discourage destructive and illegal public use of wildlife areas through enforcement of regulations.

Unauthorized use of OHVs, particularly in the vicinity of Bear Valley Creek, has regularly occurred at SCWA and has periodically occurred in other areas of SCWA and ACWA. Other unauthorized uses such as vandalism of archeological resources, unauthorized tree removal, and unauthorized firewood removal have been known to occur only infrequently. These unauthorized uses damage the wildlife areas' ecosystems, threaten special-status and game species and their habitats, and interfere with authorized uses. Limited staff and funding constrains management of unauthorized uses.

Tasks:

1. Assess and monitor where wildlife areas are seeing the heaviest OHV use or other forms of illegal resource degradation.
2. Install physical barriers (e.g., boulders, split-rail fencing) at points frequently used to access or traverse Department property illegally by OHVs. Select barriers that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.

3. Depending on the fluctuating magnitude and type of illegal public use, such as OHV use, out-of-season hunting, or tree removal, increase Department presence in wildlife areas, and increase the frequency of the assignment of penalties, as necessary. Enforce laws and request assistance from the Sierra County Sheriff as necessary.
4. Restore ecosystems damaged by unauthorized uses as necessary.

Public Use Goal 5: Evaluate requests by Native Americans for use of the wildlife area for traditional activities, such as gathering native plant materials for cultural purposes.

Gathering limited quantities of native plant materials can be compatible with hunting and other wildlife-dependent uses, and the following tasks are intended to ensure that such uses are authorized only when compatible and in a manner that minimizes conflicts with other uses.

Tasks:

1. Work with native peoples requesting access to determine the purpose and need for access and/or collections within the wildlife areas based on applicable laws and treaties related to tribal use of state properties.
2. Develop access plans and issue permits for native peoples that are compatible with the goals of the LMP. Any authorization for access would identify species, limits, locations, seasons, and include standard liability clauses.

4.6 FUELS AND FIRE MANAGEMENT ELEMENT

Fuels and fire management are very important priorities in AVWA and SCWA. Physical conditions within and surrounding the wildlife areas make them susceptible to wildfires, and catastrophic wildfires can cause serious economic and ecological impacts on the wildlife areas, the Department, and the surrounding communities.

At AVWA and SCWA, several opportunities for fuels and fire management include the following:

- ▶ Fire response agreements exist with the Sierraville Ranger District of the TNF.
- ▶ A previous fuels management prescription (using timber harvest and prescribed burning) proved successful during the Harding Fire.
- ▶ An acute regional, statewide, and even national focus on natural resource and fire management in the region exists as a result of the activities of the Quincy Library Group.
- ▶ Much of AVWA and the surrounding region was already subjected to the large Cottonwood and Harding fires, thus diminishing the likelihood of additional catastrophic fire.
- ▶ Positive ecological effects can result from moderate levels of fire.
- ▶ The wildlife areas are remote and buffered from any dense populations.

Several important constraints on fuels and fire management in AVWA and SCWA include the following:

- ▶ The forest ecosystem was made unnatural and fire intolerant by detrimental timber harvest and fire suppression practices common in the region throughout the late 1800s and most of the 1900s.
- ▶ Precipitation in the region is likely to decrease and the snowpack is likely to decrease as a result of climate change.
- ▶ Managing natural lands for resource protection and fire control is biologically complex.

- ▶ Coordinating fuels and fire management between multiple government agencies is administratively complex.
- ▶ The relative remoteness of the wildlife areas minimizes access during a fire event.
- ▶ Negative ecological effects can result from catastrophic fires.
- ▶ Limited staff and funding are available for fire management.

Fire Goal 1: Coordinate fire preparedness and response with local and regional fire management agencies.

The development of a fire management plan for AVWA and SCWA has been identified as a “step-down” action requiring additional effort following the preparation and adoption of this LMP. Although the following tasks may be implemented during the development of a fire management plan, they have been included here as necessary actions for effective management of the wildlife areas, regardless of the subsequent preparation of a complete fire management plan.

Tasks:

1. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the California Department of Forestry and Fire Protection (CAL FIRE) Truckee station, which indicate the location of sensitive resources (e.g., cultural, special status species) requiring careful consideration during a fire incident. Ensure that details of confidential information are not inappropriately circulated.
2. Provide maps to local fire authorities, including the Fire Management Officer at the Sierraville Ranger District and the Fire Chief at the Truckee CAL FIRE Station, which indicate the location and type of fuels treatments previously completed within AVWA and SCWA.
3. Provide contact information for the Department’s Agency Representative to the Grass Valley Emergency Command Center, local fire authorities, and the TNF management office in Nevada City. Obtain comparable contact information from these agencies. Update this information annually.
4. Review existing TNF fire suppression procedures to identify fire suppression tactics that could have long-term effects on ecosystems (e.g., use of retardant). Recommend avoidance or modification of those tactics whenever feasible in order to avoid or minimize long-term effects on the ecosystems of AVWA and SCWA.
5. Coordinate with the Battalion Chief of the TNF Sierraville Ranger District to obtain and review copies of local incident command procedures and agreements applicable to fire suppression at AVWA or SCWA. Provide input for these approaches to ensure consistency with Department goals. Determine whether the Department could aid appropriate fire suppression responses (e.g., installing locator signs within the wildlife areas for fire-fighting personnel.)
6. Meet semiannually with local fire authorities to discuss fire-related issues relevant to AVWA or SCWA, including vegetation management and other forms of fuels management.

Fire Goal 2: Protect people and property from fire hazards while maintaining sensitive resources to the extent practicable.

1. Train the Wildlife Area Manager to serve the role of Resource Specialist or Agency Representative through the Incident Command System. As part of this system, make available the Wildlife Area Manager or another local plant, wildlife, and fisheries specialist from the Department’s staff to provide advice during fires that threaten habitat at AVWA or SCWA.

2. Develop maps identifying critical areas where emergency revegetation or mechanical or structural measures may be necessary to prevent excessive erosion or flooding after fires. Implement such measures as appropriate following fire or fire suppression.
3. Develop a “controlled fire” and vegetation composition management program to stabilize fuel loads, encourage natural synecology, and prevent catastrophic fire. The program should include vegetation management measures along Bear Valley Road to reduce potential fire hazards.
4. Develop maps identifying areas of sensitive resources that may require specific management actions for appropriate prescribed burning activities (e.g., season-specific burning in areas of special-status plant or wildlife species, or invasive plant species).
5. Implement tasks described in the Biological Element to manage the introduction and spread of invasive plant species that may increase fire hazards (e.g., cheatgrass).
6. Review and comment on any fuels or fire management projects proposed in the future for AVWA, SCWA, or the surrounding TNF lands to ensure consistency with Department goals, such as protection of natural resources.
7. Identify and implement project-specific BMPs to minimize construction-related fire hazards during any construction activities that require the use of mechanical equipment.

4.7 FACILITY MAINTENANCE ELEMENT

Facilities at AVWA and SCWA include fencing, paved and dirt roads and accompanying culverts, and a groundwater well and pump house near Bear Valley Creek. Sierra County maintains the roads, well, and pump house. In addition, several other entities hold easements over portions of the wildlife areas that may allow the installation of additional facilities, such as power transmission lines, for the future. Issues related to their operations and maintenance are addressed under Section 4.9, “Management Review and Coordination Element.”

As a result of implementing goals and tasks described in other Elements of this LMP, it is anticipated that additional facilities may be installed in the wildlife areas. These facilities may include wildlife guzzlers, a drop structure in Bear Valley Creek, and additional riparian fencing (see Biological Element); signage and OHV barriers (see Section 4.5, “Public Use Element” and Section 4.6, “Fuels and Fire Management Element”); and fencing to protect cultural resources (see Section 4.10, “Cultural Element”). Therefore, management goals and tasks are included here in anticipation of maintenance needs for these facilities.

Because very few facilities are now in place in either of the wildlife areas, several opportunities exist to install facilities that would help bring about effective management of the wildlife areas. Constraints to installing new facilities and maintaining existing facilities include a limited availability of staff and funding for facility installation and maintenance, a potential for vandalism to signage and OHV barriers, constrained access for installation and maintenance of facilities, and a Department goal to maintain natural aesthetics in the wildlife areas.

Facilities Goal 1: Add, improve, and maintain existing structures for resource protection, education, safety, and appropriate public use of the wildlife areas.

Management of structures for resource protection, education, safety, and appropriate public use of the wildlife areas would contribute to the attainment of goals for biological, public use, fire management, and cultural elements.

Tasks:

1. Install new facilities as described in the Biological, Public Use, Cultural, and Fuels and Fire Management Elements to support attainment of related goals.
2. Establish an annual monitoring and reporting program of wildlife area facilities (e.g., condition of signs, structures)
3. Fix or replace facilities as needed, and adapt facility management approach, based on the results of the annual monitoring program.
4. Document facilities needs in Department maintenance and capital outlay database.

4.8 ADMINISTRATION ELEMENT

Administration of AVWA and SCWA includes maintaining and providing records of management actions, expenditures, allocation of staff time, and funding acquisition. Opportunities that exist for administration of these wildlife areas include an existing ground lease agreement with the Sierra Valley Resource Conservation District (SVRCD) that allows funds generated by the wildlife areas (e.g., through grazing allotments) to be reinvested in the management of the wildlife areas. Another opportunity for efficient administration includes the sharing of resources (e.g., vehicles and office space) for management of AVWA, SCWA, and three other wildlife areas: the Hallelujah Junction Wildlife Area, the Chilcoot Wildlife Area, and the Crocker Meadows Wildlife Area. Constraints for maximum administration effectiveness include limited staffing resources and a financial dependence on unstable state funding for management of the wildlife areas.

Administration Goal 1: Maintain existing data and agreements concerning the management and resources of the wildlife areas.

Maintaining current data and agreements concerning the management and resources of the wildlife areas would support attainment of goals for all other elements.

Tasks:

1. Regularly update GIS data sources as information becomes available.
2. Maintain accurate financial records regarding expenditures, staff, maintenance, funding, and other administrative duties.
3. Maintain the existing ground lease agreement with SVRCD to allow local reinvestment of funds generated by the wildlife areas.
4. Administer renewal, modification, and termination of grazing allotments and timber sales, as necessary.
5. Coordinate with local user groups to obtain volunteer labor when possible. Quantify and record this resource to be referenced as “in kind” contributions in grant applications.
6. Investigate options that may be available to obtain consistent, dedicated funding sources that are not dependent on fluctuating state funds for management of the wildlife areas.

Administration Goal 2: Streamline administrative requirements and processes by combining AVWA and SCWA as one wildlife area.

Streamlining administrative requirements and processes would help to reduce administrative costs of managing the two wildlife areas, thus releasing funds for use in meeting other management goals and tasks.

Tasks:

1. Recommend to Department headquarters that for SCWA, the Department adopt Title 14, California Code of Regulations, Section 551(q), and any other applicable regulations to be consistent with AVWA.
2. Recommend to Department headquarters that the Department combine AVWA and SCWA as one wildlife area.
3. Obtain concurrence from the Director of the Department and submit the recommendations to the Fish and Game Commission.
4. After obtaining approval from the Fish and Game Commission, update records, publications, and Web sites to reflect this change.

4.9 MANAGEMENT REVIEW AND COORDINATION ELEMENT

Attainment of the goals of this LMP depends on the implementation of supporting regulations and management practices. Attainment of the goals also can be supported by coordination of management efforts with neighbors, local agencies, nonprofits, and other federal and state agencies.

An important step toward attaining the goals of this LMP is reviewing current regulations and management practices for consistency with and support of the goals. Based on this review, if necessary, regulations and management practices could be revised to better support attainment of the goals of the LMP. The primary constraint on performing this review and changing regulations or management practices is the availability of funding and staff.

The activities of neighbors, a number of state and local agencies, nonprofits, and the TNF influence ecosystems at AVWA and SCWA. These activities may occur at the wildlife area or elsewhere in the region and are conducted for a wide range of purposes. The entities planning and conducting these activities may not be aware of related activities, effects at AVWA or SCWA, or of the Department's management goals for the wildlife areas. Therefore, management coordination could reduce the adverse consequences of these actions and increase the beneficial effects resulting from the actions and involvement of these other entities.

At AVWA and SCWA, several opportunities for management review and coordination include the following:

- ▶ Department staff has existing cooperative relationships with TNF, Sierra County, Loyalton, and other neighboring property owners.
- ▶ The Sierra Valley Coordinated Resource Management Plan was drafted in 2002, providing a framework for collaboration between stakeholders concerned with the ecologic and economic health of Sierra Valley.
- ▶ The Sierra County Sheriff's Department cooperates with Department wardens to enforce laws in the wildlife areas.
- ▶ The Sierraville Ranger District of the TNF leads and CAL FIRE assists with fire management efforts in the wildlife areas.

- ▶ There are several regional resource management plans or efforts to refer to for resource management guidance.

Important constraints on management review and coordination in AVWA and SCWA include the following:

- ▶ Staff and funding are limited to perform this coordination.
- ▶ Coordination requires that other agencies are willing to participate in management coordination and have the staff and funding available to do so.
- ▶ The Department's inconsistency in paying property taxes fosters resentment in residents and staff of Sierra County. The Department routinely submits budget change proposals in an attempt to address this issue, but these have been unsuccessful.

Management Goal 1: Ensure regulations and management practices at AVWA and SCWA support attainment of LMP goals.

This goal is based on the purpose of this LMP, which includes guiding management of habitats, species, and programs described in the LMP to achieve the Department's mission to protect and enhance wildlife values, and serving as a guide for appropriate public uses of AVWA and SCWA.

Task:

1. Review, and as necessary revise, regulations and management practices at the wildlife areas to be consistent with and to support attainment of the goals of this LMP. Periodically conduct reviews of public uses of AVWA and SCWA and evaluate rules, regulations, guidelines, and materials to ensure compatibility of public uses.

Management Goal 2: Continue coordination with other law enforcement agencies.

Although the Department maintains its own law enforcement staff (game wardens), the jurisdictions and duties of other law enforcement organizations overlap in AVWA and SCWA. Therefore, continued coordination with these organizations will support effective law enforcement and the attainment of LMP goals.

Tasks:

1. Meet regularly with law enforcement staff from the Sierra County Sheriff's Department and other agencies (such as the Truckee office of the California Highway Patrol and CAL FIRE) as appropriate to coordinate law enforcement activities and explore options for cooperative programs.
2. Pursue joint funding requests with other law enforcement entities to address law enforcement concerns.

Management Goal 3: Maintain relationships with neighbors to address management issues.

Activities of neighbors, especially those in Sierra Brooks and Loyalton, affect ecosystems and public uses at AVWA and SCWA. Maintaining relationships with neighbors can contribute to attainment of most goals of this LMP.

Tasks:

1. Meet or correspond with local landowners and user groups, as needed, to maintain communication about the management needs of AVWA and SCWA, to obtain access and use input regarding the wildlife areas, to convey useful information regarding management activities, to foster a sense of investment in the wildlife areas, to ensure that they know who to contact if they wish to report any issues, to promote educational activities, and to recruit volunteers to assist with management actions when appropriate.

Management Goal 4: Coordinate with federal, state, and local organizations regarding plans and projects that may affect resources at AVWA and SCWA, or may be affected by management actions at AVWA and SCWA.

It is the policy of the Fish and Game Commission, to provide maximum protection of fish and wildlife and their habitats, that the Department shall review and comment on proposed projects that may affect these resources, and to recommend and seek the adoption of proposals necessary or appropriate for the protection and enhancement of fish and wildlife populations and their habitats. This goal is based on Fish and Game Commission policy, and on the desire to facilitate efficient and effective management of the wildlife areas and natural resources protected by the Department.

Tasks:

1. Review, coordinate, and provide comments and recommendations on federal, state, and local government plans; special plans; and proposed projects, as appropriate, for the purpose of determining the consistency of such plans with the goals of the Department's management plans.
2. Participate in other regional planning and resource management efforts, and coordinate with regional nongovernmental organizations, as appropriate (e.g., Quincy Library Group, Sierra Nevada Forest Plan, Sierra Nevada Framework, Sierra Nevada Alliance, Sierra Nevada Conservancy, Sierra Fund, Upper Feather River Integrated Regional Water Management Plan, California Wilderness Coalition, High Sierra Rural Alliance) to support the attainment of wildlife area management goals.
3. Coordinate with regional agencies, stakeholders, and educational institutions to implement knowledge exchange (e.g., to organize data and create databases relevant to specific resource issues, provide educational workshops.)
4. Coordinate with the local school district to encourage environmental education and to recruit volunteers to assist with management actions when appropriate.
5. Continue to coordinate with Department wardens, land managers, and resource specialists in surrounding regions for assistance with law enforcement and resource management.
6. Continue to participate in the Sierra Valley Coordinated Resource Management Plan and with the other signatories of the plan (including the Sierra Valley Resource Conservation District, the Natural Resources Conservation Service, and the Plumas Corporation and Feather River Coordinated Resource Management Group); encourage and support a renewed interest among signatories to meet regularly to facilitate the coordination of land management and planning activities among public agencies and private landowners; collaborate with signatories in funding management actions when possible.
7. Coordinate with the following organizations regarding resource management, knowledge exchange, and the specific topics described below:
 - ▶ Sierra County—roadway management and potential realignment of Antelope Valley Road, use and maintenance of wells in SCWA, public outreach assistance, review of proposed projects;
 - ▶ City of Loyalton—flood control issues, public outreach assistance, review of proposed projects;
 - ▶ TNF, Sierraville Ranger District—resource management (e.g., grazing, fuels management, invasive species management, special-status species management), watershed restoration, fire management, public outreach assistance;

- ▶ RWQCB/SWRCB—Water quality control plan (basin plan) goals, funding opportunities, regulatory compliance;
- ▶ DWR—coordination with the Water Master regarding water rights issues, funding opportunities, assistance with watershed projects;
- ▶ CAL FIRE—fire management, public outreach assistance;
- ▶ The Plumas-Sierra Agricultural Commissioner—depredation issues;
- ▶ USFWS—special-status species impacts, funding opportunities;
- ▶ The California Department of Transportation (Caltrans)—watershed restoration (particularly around SR 49), funding opportunities.

Management Goal 5: Ensure that management actions minimize air quality, noise, and hazardous impacts.

The following tasks are necessary to minimize potential impacts of management actions to air quality, noise, and hazardous resources. This goal is based on the Department’s policy and obligation to avoid significant environmental impacts.

Tasks:

1. Prior to conducting any construction projects involving the use of hazardous materials typically associated with construction activities, such as oils and fuels, require that contractor(s) establish a construction staging area at which hazardous materials will be stored and disposed of during construction, and prepare an accidental spill prevention and response plan specifying BMPs aimed at reducing the risk of hazardous spills. Implement the plan during construction activities.
2. Prior to conducting any management projects that would require an acre or more of soil disturbance, submit a Dust Control Plan to the Northern Sierra Air Quality Management District (NSAQMD) for review and approval. Include in this plan the fugitive dust control BMPs (e.g., the use of water trucks, speed limits, street sweepers, or construction restrictions during high winds) to be implemented to control the release of dust to the atmosphere, and to ensure that fugitive dust does not exceed opacity limits or go beyond construction boundaries.
3. Prepare an emissions reduction plan for any management projects that may involve the simultaneous use of more than approximately 6 excavators, 6 rubber tired dozers, and 2 other pieces of material handling equipment. Provide the plan to the NSAQMD for review and approval; include a comprehensive list of construction equipment, and demonstrate that heavy-duty vehicles to be used during construction of the project, including owned, leased, and subcontractor vehicles, would not exceed NSAQMD air quality standards for emissions. Outline and implement BMPs (e.g., use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, emulsified diesel fuel, and particulate matter traps; limiting equipment idling; limiting the use of large diesel powered generators; and maintaining equipment to manufacturer specifications) as necessary to minimize construction emissions.
4. Prepare a noise reduction plan for any management projects in SCWA that may involve the simultaneous use of multiple pieces of construction equipment within 500 feet of any sensitive receptors (e.g., residences) to ensure that construction activities will not exceed Sierra County General Plan noise standards. Implement BMPs (e.g., limiting the simultaneous use of multiple pieces of construction equipment, limiting work hours, using commercial or plywood noise barriers, consulting with Sierra

County and nearby residents) to minimize construction noise such that it does not substantially increase ambient noise levels or expose sensitive receptors to excessive noise levels for an excessive period of time.

4.10 CULTURAL ELEMENT

At AVWA and SCWA, several opportunities for management of cultural resources, include the following:

- ▶ the known locations of prehistoric and historic-era resources on Department property;
- ▶ the remoteness of the wildlife areas, which minimizes the likelihood of disturbance to these resources; and
- ▶ available expertise and assistance from cultural experts at the local TNF offices.

Several important constraints on the management of cultural resources in AVWA and SCWA include the following:

- ▶ patterns of heavy land use over a long period of time, such as Native American occupation and historic-era mining, ranching, or timber harvesting that may have left presently unknown remains in the region;
- ▶ the remoteness of the wildlife areas which makes frequent monitoring of cultural resources difficult;
- ▶ the relatively few cultural surveys that have taken place in the wildlife areas; plans for high levels of soil disturbance required for watershed restoration projects, which could disturb unknown cultural resources; and
- ▶ limited staff and funding availability for managing cultural resources.

Cultural Goal 1: Catalog and preserve known significant cultural resources identified within AVWA and SCWA.

These goals are based on the requirements of CEQA and on the intent of the Department to provide long-term stewardship of cultural resources at AVWA and SCWA.

Tasks:

1. Limit public access and vandalism to petroglyphs located on Department property by installing exclusionary fencing. Select fencing location and styles that are consistent with the rural character of the region and the aesthetics of the natural environment in the wildlife areas.
2. Limit public access and discourage vandalism of the historic sawmill site located on Department property by avoiding the construction of trails or roads in the vicinity.
3. Avoid soil disturbance around the petroglyphs and the sawmill. If disturbance is unavoidable, mark these resources as no-entry areas before any soil disturbance activities occur within 100 feet, and retain a qualified professional archaeologist to monitor all ground-disturbing activities.

Cultural Goal 2: Preserve all significant prehistoric and historic-era cultural resources and present-day Native American cultural properties that documentary and/or field investigations identify within AVWA and SCWA.

Tasks:

1. Conduct cultural resource surveys as necessary prior to ground-disturbing activities, including proposed watershed restoration program activities. Prepare an "inadvertent discovery plan" to be utilized during implementation of any project involving ground-disturbance. The inadvertent discovery plan shall refer to and

outline state law regarding the discovery of human remains and include a requirement to consult with a qualified archaeologist in the case of a discovery of cultural resources or human remains during ground-disturbing activities.

2. If cultural resources are found during surveys or excavation, complete and submit resource documentation to the California Historical Resources Information System. If these resources are potentially eligible for listing on the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR), submit evaluations of these resources to the State Historic Preservation Officer for concurrence and recommendations.
3. When facility improvements or restoration efforts are proposed that may affect significant (per NRHP/CRHR criteria) cultural resources, consult the CEQA guidelines and/or Section 106 of the National Historic Preservation Act (if federal involvement) for guidance on compliance with regulations.
4. As opportunities and funding allow, conduct pedestrian surveys for cultural resources in areas that have not already been surveyed. Inventory any resources discovered on Department property that may warrant management actions to facilitate preservation of the resources.
5. Support efforts to document the history of human activities at AVWA and SCWA.